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09/848,816

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EXAMINER

DANG, KHANH NMN

ART UNIT

PAPER NUMBER

2111

DATE MAILED: 03/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------------------------|--------------------------------------|--|
| Office Action Summary | Application No. 09/848,816 | Applicant(s) IRVING ET AL. | |
| | Examiner Khanh Dang | Art Unit 2111 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

Claims 7 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 7, "the third computing device" lacks antecedent basis.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-5, 10, 11, 13-17 are rejected under 35 U.S.C. 102(e) as being anticipated by Chen et al.

At the outset, it is first noted that similar claims will be grouped together to avoid repetition in explanation.

As broadly drafted and after the word comprising in the preamble, these claims do not define any structure or step that differs from Chen et al.

With regard to claims 1, 3, 16, 17, Chen et al. discloses a printed circuit board (also printed circuit board in Chen et al.); a first communication coupling (105) coupled with the printed circuit board and configured to receive a first computing device (first processor card 120, for example); a second communication coupling (another 105) coupled with the printed circuit board and configured to receive a second computing device (a second processor card 120, for example); a master signal control module (comprising signal switching circuitry 128) coupled with the first and second communication couplings; wherein the master signal control module (128) is operable to communicate control signals to the second communication coupling if the first computing device is not coupled with the first communication coupling; and wherein the master signal control module prevents communication of the control signals to the second communication coupling if the first computing device is coupled with the first communication coupling (in Chen et al. when both processor cards are in their slots (105), only one processor card actually connects to the bus via the signal switching circuitry, and the second processor card (120) takes over the operation of the server when the first processor is removed from the slot (105)).

With regard to claim 2, the first communication coupling includes trace wiring (wiring) at least partially embedded within the printed circuit board (it is clear that as in any CompactPCI server, in the CPCI server of Chen et al., the wiring is embedded in the circuit board).

With regard to claim 4, the second computing device (120) is coupled with a network interface card (10, for example) operable to couple the first computing device with a network.

With regard to claim 5, the master signal control module (comprising signal switching circuitry 128) is operable to communicate the control signals to the first communication coupling (105) if the first computing device (first processor card 120) is coupled with the first communication coupling (in Chen et al. when both processor cards are in their slots (105), only one processor card actually connects to the bus via the signal switching circuitry, and the second processor card (120) takes over the operation of the server when the first processor is removed from the slot (105)).

With regard to claims 10, 11, 13-15, it is clear that one using the device of Chen et al. would have performed the same steps set forth in claims 10, 11, 13-15.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6, 7, 12, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al.

Chen et al., as explained above, discloses the claimed invention. However, Chen does not disclose the use of a "third computing device" in addition to the first and second processor cards. In Chen et al. when both processor cards are in their slots (105), only one processor card actually connects to the bus via the signal switching circuitry, and the second processor card (120) takes over the operation of the server when the first processor is removed from the slot (105). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide Chapman with an additional processor card (a "third computing device") so that when both processor cards (120) failed or are disconnected the master control signal will be switched to the additional processor card ("a third computing device"), since a mere addition of an additional processor card to Chapman for further protection during failure or disconnection is only a matter of design choice, and involves only routine skill in the art.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al.

Chen et al., as explained above, discloses the claimed invention including the use of a signal control module comprising signal switching circuitry (128). However, Chen et al. does not disclose the use of a plurality of "diodes and resistors" to perform logic which determines the path of the control signals. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a "plurality of diodes and resistors" in the circuitry of Chen et al., since the Examiner takes Official

Notice that the use a “plurality of diodes and registers” in such a circuitry for determining the path of control signals is old and well-known. Resistors are components that have a predetermined resistance. Resistance determines how much current will flow through a component. Resistors are used to control voltages and currents. Diodes are components that allow current to flow in only one direction. They have a positive side (leg) and a negative side. When the voltage on the positive leg is higher than on the negative leg then current flows through the diode (the resistance is very low). When the voltage is lower on the positive leg than on the negative leg then the current does not flow (the resistance is very high). Thus, based on the intrinsic nature of resistors and diodes and their intended uses, providing the switching circuitry of Chen et al. with a “plurality of diodes and resistors” for switching the signal path to the first or second processor card (120) only involves routine skill in the art. If the Applicants choose to challenge the Official Notice, supportive document(s) will be provided upon request.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al.

Chen et al. discloses a server chassis comprising a backplane printed circuit board (also printed circuit board in Chen et al.); a first communication coupling (105) coupled with the printed circuit board and configured to receive a first computing device (first processor card 120, for example); a second communication coupling (another 105) coupled with the printed circuit board and configured to receive a second computing device (a second processor card 120, for example); a master signal control module

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(comprising signal switching circuitry 128) coupled with the first and second communication couplings; wherein the master signal control module (128) is operable to communicate control signals to the second communication coupling if the first computing device is not coupled with the first communication coupling; and wherein the master signal control module prevents communication of the control signals to the second communication coupling if the first computing device is coupled with the first communication coupling (in Chen et al. when both processor cards are in their slots (105), only one processor card actually connects to the bus via the signal switching circuitry, and the second processor card (120) takes over the operation of the server when the first processor is removed from the slot (105)).

However, Chen et al. does not disclose that the printed circuit board is a midplane printed circuit board.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the printed circuit board as a midplane printed circuit board, since using a printed circuit board as a backplane printed circuit board or midplane circuit is only a matter of design choice, and involves only routine skill in the art.

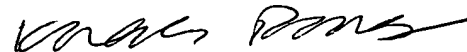
Response to Arguments

Applicant's arguments with respect to claims 1, 9, 10, 13, and 16 have been considered but are moot in view of the new ground(s) of rejection.

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Any inquiry concerning this communication should be directed to Khanh Dang at
telephone number 703-308-0211.

A handwritten signature in black ink, appearing to read 'Khanh Dang', with a stylized flourish at the end.

Khanh Dang
Primary Examiner